


PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference M03B300/MW		FOR FURTHER ACTION		See Form PCT/PEA416
International application No. PCT/GB2004/004755		International filing date (day/month/year) 11.11.2004	Priority date (day/month/year) 13.11.2003	
International Patent Classification (IPC) or national classification and IPC A23D9/05, A23D7/05, B01J2/04, F25D25/00, B01D9/00, F25D31/00				
Applicant THE BOC GROUP PLC et al				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand 03.06.2005		Date of completion of this report 19.10.2005		
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer Rooney, K Telephone No. +31 70 340-		



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**INTERNATIONAL PRELIMINARY REPORT
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International application No.
PCT/GB2004/004755

APPROVED FOR ENTRY 09 MAY 2006

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
 - ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

Description, Pages

1-18 as originally filed

Claims, Numbers

1-34 as originally filed

Drawings, Sheets

1-4 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
 - ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
 4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2-34
	No: Claims	1
Inventive step (IS)	Yes: Claims	
	No: Claims	1-34
Industrial applicability (IA)	Yes: Claims	1-34
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

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 (SEPARATE SHEET)**

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Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

D1: WO 02/089998 A (NOVEL TECHNICAL SOLUTIONS LIMITED; ZHOU, CHUANJIE) 14 November 2002 (2002-11-14)

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

The document D1 discloses a method of cooling liquids which comprises forming a sheet of the feed liquid and allowing this sheet to be impinged on both sides by cryogen (see D1: page 4, paragraph 1 - page 5, paragraph 1).

3. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 14 does not involve an inventive step in the sense of Article 33(3) PCT.

The document D1 discloses an apparatus for carrying out the above method. The apparatus consists of a nozzle for forming at least one sheet of flowing particles of the feed liquid, one cryogen discharge member for directing the gas stream at one side of the feed sheet and one cryogen discharge member for directing the gas stream at the other side of the feed sheet (see D1: page 4, paragraph 1 - page 5, paragraph 1; figures). The subject-matter of claim 14 differs from the apparatus taught by claim 14 merely in the detail that there is more than one cryogen discharge member on each side of the sheet. However, it seems that this feature is a trivial one with an effect that might be readily anticipated by those skilled in the art. Furthermore, there is no evidence for an unexpected effect due to this feature disclosed in the application. Therefore it appears that the subject-matter of claim 14 lacks inventive step.

4. Dependent claims 2-13 and 15-34 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step since these claims relate to conditions and features which are disclosed as possibilities in the document D1 (see D1: the whole document). Therefore, it is reasonable to assume that the skilled person might select and employ any one of

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these features in the routine practice of the teaching of the document D1, without demonstrating inventive skill.